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THE AMERICAN SPARROW HAWK.

Falco Sparverius (Linn.)

[P.3]

—THE—

ORNITHOLOGISTS' AND OOLOGISTS'

SEMI-ANNUAL.

VOL. 2. JULY, 1890. NO. 2.

THE AMERICAN SPARROW HAWK.

Falco Sparverius.

BY DR. W. S. STRODE, BERNADOTTE, ILL.

This beautiful little Falcon is quite common in the Spoon river country of central Illinois. In a ten-mile drive in the valley or along the bluffs, the observer may see many pairs of them durin the spring and summer months.

They usually arrive between Feb. 20th and March 1st, and their food consist at this time largely of the Short-tailed Meadow Mice (*Avicola riparius.*) Of this little rodent vast numbers find a suitable home in the grassy sloughs and meadows along the river. Later in the season beetles and grasshoppers are added to their bill of fare.

On March 1st of this year the arrival of the first Sparrow Hawk was noted. On the 2d, five were seen and four of the number had in their talons a meadow mouse. They showed but little fear of me and would fly along the fence only a few rods in advance of my horse, the mouse dangling from the talons of one foot, presenting rather a comical appearance.

March 25th I went to a meadow near the village of Bernadotte to collect a series of Horned Larks (*Otocoris alpestris.*) Flying about over the field was a pair of Sparrow Hawks, eagerly searching for a breakfast of meadow mice, dashing from one locality to another, and facing the wind, which was blowing quite fiercely, they would poise in mid-air, and, with tremulous wing,

remain in almost exactly the same spot for a minute or two, head lowered and tail spread like a fan. Nor did the reports of my gun appear to disconcert them much.

Some of the dashes across or down the wind were made with lightning-like rapidity and set me to calculating as to what this bird could do on the wing if this speed could be maintained for a few hours. Space would be almost annihilated, or the distance between St. Louis and Chicago covered in one hour's time.

Although I remained in this field for an hour I saw no capture and *Mr. Sparverius* seemed destined to go hungry, the mice doubtless preferring their warm, cozy nests beneath the sod to braving the sharp, piercing wind on the surface.

The field was full of the Larks but they seemed to pay no attention to them. Doubtless they occasionally vary their bill of fare by capturing small birds or young chickens, yet I have never seen them doing so. Wilson and one or two other observers claim to have seen them in possession of a full-grown Bobwhite that they had captured.

Their full complement of eggs, at least in Illinois, is almost invariably five. In the score or more sets which I have taken this rule has not varied, where there was reason for believing that the lay was complete. In the J. P. Norris collection, of Philadelphia, there are 12 sets of 4, 14 sets of 5 and 1 set of 6 eggs. Dr. J. C. Merrill, U. S. A., collected twenty-five or more sets in Montana. He says: "In nests found along the lower streams, 5 eggs are the usual complement, while those in the mountains usually contained fewer. Of the nests examined most were in cavities in trees, either natural or made by Flickers. The eggs were placed on a slight bed of leaves and grasses, or a few chips, or on the bare wood. Holes of suitable size and shape, in rocky cliffs or river banks were also used for nesting places."

All the nests that have come under my observation with one exception have been in cavities of trees, and no lining of any kind has ever been found in the nests. The one exception is in the spire of a church in Iable Grove, Ill. Here, an hundred and fifty feet from the ground, a Woodpecker had worked a hole, and for several years in succession a pair of Sparrow Hawks have raised their young. Perhaps no other *raptore* can compare in beauty and elegance with a series of sets of the eggs of this little hawk.

As a personal reminiscence is always in order, I will close this article by recounting my experience for the present season in the search for a series of sets.

April 28th was the time I had fixed upon as about the proper date to find the lay complete, and at noon of this day, having made all my sick calls, I threw dull care to the wind, and, accompanied by my twelve-year-old son, started out for an afternoon of it. We carried with us collecting box, a sharp hatchet, a ball of string and climbers. Thus equipped, we made rapid strides for a tract of large timber, on the river, three miles below the town.

This bit of forest of an hundred acres or more has not yet felt the devastating and destroying hand of man, and has remained almost in its pristine beauty. Here in the beautiful springtime, when nature is donning her finest wardrobe, budding trees, blooming flowers, the rippling river, and song of birds, I have whiled away many an happy hour in the intense enjoyment that can only be felt by one thoroughly in love with nature and all her creatures. Back from the river's bank, a forest of walnut, elm and ash formed a dense shade for the Easter lilies, ox-eye daisies and touch-me-nots that carpeted the earth beneath. Nearer the water a fringe of silver-leafed maples, while at the river's edge, in their drooping grace and rhythmic response to every passing breeze, the willows dipped their graceful branches to the water's edge.

Towering far above all were the great sycamores and cottonwoods, mighty giants of a by-gone age, standing like colossal sentinels over the surrounding forest, so straight and unbending that no convulsions of nature seemed to have disturbed them. In these grand trees were to be found the objects of search, the nests of the Sparrow Hawk. Here many pairs of them nest every season. No trouble to locate the nests, but to get to them, almost among the clouds, was no easy matter.

In a few minutes we had rapped a female *Sparverius* from an old Flicker hole, up a hundred feet or more, in a "syc" four or five feet through. As the sap-sprouts put out almost from the ground up, the ascent was made without much difficulty and five eggs were secured.

The next find was in a cottonwood, with not a limb for fifty feet. I did not care to trust my 187 lbs. to the rough bark while

climbing this distance and we passed on. The next nest was in a giant buttonwood, and up so high that it almost made one's head swim to look up to it. The tree itself, from the ground, would have been unclimbable, but growing under it was a water elm about two feet in diameter. The top of this tree just well reached the lower branches of the "sye," and by ascending it I was enabled to get over into the buttonwood, and then on up to the Flicker hole, containing the nest. Enlarging the cavity with the hatchet which I carried up in a strap around my waist, I secured the eggs, which were again five in number.

These are representative climbs, and the collector with a cool head, plenty of determination and hard muscles could secure many sets at the proper season along the Spoon river valley.

Suffice it to say that we secured two more sets on this trip, one of five and one of four. In each case the eggs we put into a mitten to which the fish-cord was attached, and then lowered to the ground. Upon blowing they appeared fresh or nearly so. I presented much the appearance of having been rolled in a flour-barrel. We arrived at home at sundown tired and very hungry, but happy and well satisfied with our afternoon's work.

Long live the pretty *Falco Sparverius!*

"GEORGE."

BY H. H. BRIMLEY, RALEIGH, N. C.

The death of his mother from "lead poisoning" caused George to be left an orphan at an early age. I found the youngster in a hollow tree, and, knowing his unfortunate circumstances, I carried him home and adopted him and he remained with me until he was well grown. I may as well state here that George was a bird—a Barred Owl—and that his mother was shot by myself before I knew of his existence.

When first taken he was a mere mass of long, soft down, dirty white in color, with a pair of large, staring, black eyes. After getting him safely to the ground, the problem arose of getting him home, the distance being several miles. After one or two

trials I got him to perch on my left hand, and with my gun in my right, I carried him as far as I could in this cramped position, he sitting quietly and apparently needing all his powers to keep his balance. After a while I succeeded in persuading him to perch on my shoulder, and thus we finished the trip. He was placed in an empty barn and that was his home for the rest of his life.

For several days he was fed by hand on fresh meat and birds cut up into small pieces, but he soon found a way of feeding himself and would take an English Sparrow and bolt it whole, without removing a feather. With a bird the size of a Robin he would fly onto my hand, pick up the bird with one claw and fly back to his perch to discuss it. Then, standing on the unoccupied claw, he would raise the bird half-way to his mouth, bending his head to meet it, and proceed to pull out all the stiff wing and tail quills and partially pick the body. Still holding it in one claw he would tear pieces off until the remainder was small enough to pass his gullet, and then down it went, whole, and he called for more.

His usual mode of salutation was by snapping his bill, and his method of signifying that "grub" would be acceptable was a combination of hissing and snapping.

The amount of food that George could consume in a day was a caution. Here are some of his bills of fare: 1—Three Catbirds and a Purple Gallinule. 2—Three Catbirds, a Whip-poor-will, Blue Grosbeak and Red-wing Blackbird. 3—The interior arrangements of three Gray Squirrels. 4—Five Cedar-birds. The birds mentioned were mostly (Catbirds excepted) specimens from which the skin had been removed, consisting of the whole body, with the exception of bones of legs, wings and skull.

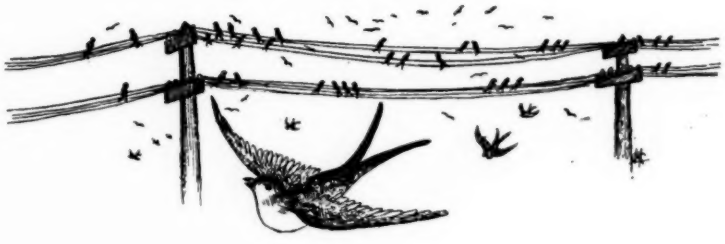
A comical looking fellow was George. As he sat on his perch, staring with his great, black eyes at an intruder, he had an indescribable air of wisdom, and looked something like a caricature of an English judge in his wig of office. When exercised about the appearance of any object, he would duck his head, move it up and down and sideways, as if connected with his body by a flexible cord instead of a neck, always with his intensely surprised gaze fixed on whatever had first excited his curiosity.

He was curious and amusing, but, as he got grown, his demands for "grub" became so exorbitant that I began to see that it would not be possible to keep him much longer. He also got to be a

bad man to call upon. If I entered the barn in the morning without at once holding out my hand containing food for him to come and pick up as he sailed by, as was his custom, he would make a bee-line for my head and grab for my scalp with his claws as he flew over. As I could duck my head "darned quick" under these circumstances, he would repeat the attempt several times unless I scared him off.

He was not in the least afraid of me on ordinary occasions, but showed great uneasiness and fear at strangers, especially ladies.

One fatal day a trap containing fourteen live roof rats was brought us. Of these the five largest were skinned and their bodies given to George. The remaining nine, varying in size from half-grown to grown, were likewise given to him. The next day he did not seem hungry, having made quite an inroad into his rat-pile, neither was he at all sick. The following morning he lay dead on the floor beneath his usual perch, his body being quite warm, his plumage unruffled and showing no signs of any struggle. His death seemed to have been sudden and painless. I do not think his gorge of rats killed him. Possibly lead poisoning, caused by a diet of "*shot*" birds, laid him low, but I do not think so as he had shown no signs of sickness previously. I only know that he has gone, but his memory and his skin still remain.



SOME HINTS ON FINDING NESTS.

BY C. S. BRIMLEY, RALEIGH, N. C.

Taking our various species in somewhat the order they nest, I will begin with the birds that dig holes in wood.

The Brown-headed Nuthatch and Carolina Chickadee need to be looked after when "digging," and the way to find the nests is to listen for the sound of the bird's bill on the wood, as he chisels off chips from the inside of the cavity. Nuthatches especially need to be locatad when digging, as they take very little time lining the cavity. Chickadees, however, may often be located by watching the bird collect nesting materials. The chief difficulty here is that the Chickadee frequently gets his material at some dis- from the nest.

Pine Warblers must be located when building. The singing male will usually have his wife somewhere near by, and if she is building, she usually betrays the fact by a more restless and pre-occupied air than when she is merely searching the pine trees for worms and insects. Here, again, one must pay particular attention to any female seen taking a long, straight flight into a tree; a bird usually has a more direct, business-like way of flying when carrying material to its nest then when merely flitting from tree to tree.

The Tufted Tit must also be watched when building, and he needs a great deal of watching, as he, like his small cousin, gets his building material from a long way off; but he makes up for that in a measure by carrying a good big bunch of stuff in his mouth; enough to make his building operations a tolerably evident fact to all that see him and are ready to profit by observation.

Louisiana Water Thrushes' nests must be found by a careful exploration of the small streams they build in.

Blue-gray Gnat-catchers' are most easily found by watching the bird building; when a nest is found, however, it is not by any means always takeable.

Whip-poor-wills' eggs are found by a careful search of the localities they frequent, and then if you go at the right time and flush the bird, you generally get a set.

For Red-eyed Vireo, it seems best to look for nests with eggs in. When I have found nests building, they have, in a majority of cases, been afterwards deserted. A careful search of the ends of drooping limbs in the neighborhood of an uneasy pair usually reveals a nest.

Hummingbirds' are found by watching the birds building and also by carefully searching whenever a female Hummer makes a good deal of fuss in one's neighborhood. An agitated Hummer usually means a nest, but it does not always mean a nice, fresh set.

Field Sparrows' and Chats' are found by searching in low bushes and thickets, also by watching the birds building. Chipping Sparrows' may be found by scrutinizing the ends of the long limbs of good-sized pines; they nest more in such situations than anywhere else.

Acadian Flycatchers' are found by careful search in the neighborhood of any pairs that seem disturbed or alarmed by one's presence.

For Blue Grosbeak' one has to locate the territory a pair range over, and then search in all likely places for the nest.

THE ROCKY MOUNTAIN SCREECH OWL.

BY WM. G. SMITH, LOVELAND, COL.

This little owl is a resident in the lower mountainous portions of Colorado at all season, although a shiftless one, sometimes being numerous in certain localities, while on the next visit not one can be found. It appears to be strictly nocturnal in its movements and generally hides during the day in some hollow tree, in the absence of which it selects some secluded spot where the vegetation is very dense, as it is incessantly hunted by the villainous Black-billed Magpie.

It commences to breed early in April. I took a full set as early as the fourth of that month, this year. It deposits its eggs (usually four) in some hollow tree as a rule, but I have found them in an old deserted magpie's nest; in this case, as also when laid in a hollow tree, it is sparingly lined with a few feathers. Both birds may occasionally be found on the eggs at one time, and are very loth to leave: nothing short of physical persuasion will tempt them to leave their nest.

A few days ago my son took out two old birds from a hollow tree and then discovered two eggs which he let remain; and his hand was scarcely drawn from the hole before one old bird bolted in again. Any ordinary bird would consider themselves grossly insulted and forsake their nest; not so with *Megascops asio maxwelliæ*, as in this case they went right along with duties and laid their full complement of eggs. As a rule they lay an egg each day until four is laid, but in some cases it takes them two weeks to get together their full clutch, and consequently some birds hatch out long before the others, as they appear to set on the eggs from the start.

The Rocky Mountain variety is much lighter in color than the eastern form, having but very little or no tawny on its wings and body, and is a very pretty bird. The eggs are nearly round, pure white and measure about 1.50x1.20. I never found more than four in a clutch and often but three.

THE CATBIRD.

Galeoscoptes Carolinensis.

BY WM. L. KELLS, LISTOWEL, CANADA.

The vocal imitative powers of the mocking birds, have long been a theme for the poet, and the admiration of the naturalist. Different species of these birds are found in various parts of North America, but the species most commonly found in Ontario, and the other divisions of Canada is the Cat or Mewing Bird.

THE CATBIRD.

This species is about ten inches in length. The plumage is sooty black, the wings and tail being of a darker hue than the rest of the body. The bill, feet and eyes are also black, the tail being remarkably long. It frequents shrubberies, vineyards, old orchards, beaver meadows, the willow-grown margins of the creeks, and wherever there is the thick shade of low underwood, and in such places the female builds her nest, usually near the ground, among the thickest bushes or evergreen shrubs, where it is well concealed from observation. This is composed of small brambles, stalks of dry weeds, dry leaves, plastered inside with mud and lined with rootlets and some fine, dry grass.

The set of eggs, generally four in number, sometimes five, are of a deep greenish hue and measure .95x.71 inches. Two broods are generally raised in the season, but the bird has many enemies

among the feathered race, as well as small animals, and is often robbed of its contemplated family. To its nest and eggs the Mewing Bird is strongly attached, and the affectionate regard manifested by both parents towards their young is not surpassed by any other member of the feathered family. They are very diligent and careful in supplying their offspring with food, and should they be exposed to danger, will, in trying to defend them, encounter hazards to their own personal safety, seeming almost strangers to fear, and exercise all their arts in order to drive off the intruder.

The vocal powers of the male of this species are varied and wonderful; the notes of the Blackbird, the Wood Thrush, the Robin, the Grosbeak and the Goldfinch, the call of the Sandpiper, as well as the warbling and solos of various other field and forest birds, and even the cries of some small animals are all successfully imitated, intermingled with other notes peculiarly its own. It not only sings and imitates with deceptive exactness, but often performs a kind of dance at the same time, hopping from branch to branch as if keeping time to the music of its own voice. It often deceives persons by imitating the mewing of a kitten in distress or pain, and as soon as it is approached it either darts off through the brushwood or begins to warble some other notes, apparently pleased at thus deceiving the human ear. It also seems to take pleasure in teasing other birds by imitating their love calls, or notes of distress; and as soon as they approach its perch, terrifies them by the scream of some hawk or other bird of prey. While hay-making is in progress it will often visit the meadows in the vicinity of its haunts, for the purpose of securing a supply of insect food for its young, and often startles or amuses the haymaker by its cat-like calls and other peculiar notes. But no persons are more annoyed by the "mewings" of the Catbird than the village berry-pickers, who, when in search of wild raspberries often invade its haunts, and while thus engaged are frequently affrighted of what they suppose to be the near approach of a wildcat.

This species, though tolerably abundant, is rather solitary in its personal habits, and seldom is more than one pair found in the same vicinity. It is quick in its movements; its flight is usually short, but rapid, and it feeds on various species of insects and

berries, and may also sometimes destroy the eggs of smaller birds. In the spring-time it makes its advent in the central part of Ontario usually about the beginning of the second week of May and departs again in the early part of September, the winter home being the region of the Gulf of Mexico and the West India Islands.

I well remember my first acquaintance with the Catbird, and the discovery of its nest. The creek which intersected the old homestead farm, on which were passed my boyhood days, on reaching the boundary line of our premises, made a short curve back into the woods, which for years after the front portion of our farm had been cleared, remained still in a state of primative wildness. Here, in the bend, was a thick growth of underwood, and in the summer time shaded with a dense foliage. Often out of this glen-like spot came strange, wild sounds the causes of which we children of the farm were at first too much afraid to investigate. At length, one summer day I mustered up courage and went down into this wild place. On proceeding, a series of kitten-like "mews" greeted my ears, and I soon discovered the authors in a pair of dark-colored birds, near the size of a Robin, but with longer tails, who were darting about among the branches and evidently much alarmed at my invasion of their retreat. I also soon discovered the reason for their distress in the form of a large nest, placed in the forks of a very slender blue beach, which upon reaching I found to contain three young birds, a few days old, and one greenish-colored egg, the first of this species I had ever seen. I felt not a little proud of my adventure and discovery, and was never afterwards so much afraid of wild-cats.

My next acquaintance with the Catbirds was in the beaver meadows of North Wallace, especially in the vicinity of Emerald Farm, on which I became a resident in the spring of 1865. Here I found this species quite common and saw numbers of their nests, and their habits and peculiar notes often engaged my attention. In coming to Listowel, and continuing my observations of the avi-fauna of this section, and beginning my oological collection, I found the Catbirds numerous in most of the second growth woods, especially where there is an intermingling of evergreen shrubs with the second growth ashes and red maples. I have also noticed this species in Stanley, on the shores of Lake Huron,

and near Port Dover, on the Erie shore, and it is noted by every individual who has made out a list of the birds of Canada.

When I visited the celebrated Falls of Niagara, the second time, on the 10th of June, 1881, I noticed this bird in several of the gardens and vineries, near the margin of the rock-hewn gorge through which that river flows from the great cataract to the whirlpool, and on the morning after my arrival, when I awoke in the Paradise-like home of my friend Ralph V. Lyon, and lay listening to the murmuring sounds of the great waterfall, I was pleased to notice that among the other sounds of bird-life that came in through the window, on the dewy, flower-scented air, were those of my old and familiar feathered friend, the Catbird, and in the garden enclosures, on the Canadian side, among the many birds whose songs greet the tourist from many lands, as they approach the falls and bridges, are those of this species of the American Mocking Birds.

THE RED-BELLIED WOODPECKER.

Melanerpes Carolinus.

BY E. B. PECK, CLIFTON SPRINGS, N. Y.

The Red-bellied Woodpecker is considered the rarest species of its family that ever reaches this part of the Empire state. Occasionally a solitary individual may be seen the fore part of April on his way to the northern breeding grounds. I have never seen more than one at a time.

While out collecting one day in October, I had the good fortune to see a specimen of this species on an old dead stub, his favorite resort, where with his sharp bill and spiked tongue he draws forth his daily allowance, consisting of grubs and small worms. I raise my gun, fire and soon have him in my hands.

A few days later I was again in the same piece of woods and saw another of the same species, flitting from tree to tree, uttering a peculiar note, which is a great deal coarser than that of the Red-headed Woodpecker. On this occasion the bird is very wild and it is only after a half-hour's hard work, creeping and running through the bushes, that I get a shot and secure the bird. It is a fine female, but not near as handsome as the male.

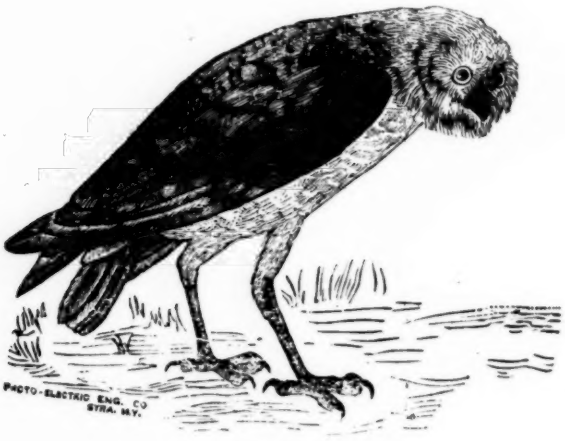
This Woodpecker has a bright red crown and hind neck; back barred with white and black; throat ashy gray; breast a very pale pink, shading into a pinkish-red or bright red. The sexes are similar, except the crown, which, in the female, is ashy gray. Length, 9 in.; wing, 4.85 in.; tail, 3.50 in.; culmen 1. The eggs are pure white .96x.71.

THE BURROWING OWL.

Speotyto Cunicularia Hypogæa.

BY F. T. PEMBER, GRANVILLE, N. Y.

Having spent the last four seasons collecting on the Pacific coast, I have had abundant opportunity to observe the habits of the Burrowing Owl during the breeding season. In parts of Cal-



THE BURROWING OWL.

ifornia, where I have spent considerable time, these interesting little owls are very numerous, and a ride of a few miles over the uncultivated plains usually shows them by dozens, sitting, either singly or in pairs, at the entrance to their underground homes. At such times they are very tame and stare wonderingly until you are within a few feet of them, when they either drop into the burrow or fly a few rods away. After these short flights they almost invariably alight on the mound in front of another burrow, when they turn about so as to face you, and at short intervals make a sharp, un-owl-like note, at the same time comically bowing themselves almost to the ground. It is quite amusing to those who see them for the first time.

During the breeding season the male owl seems to keep constant watch at the entrance of the hole, while his mate is attending to her household duties inside. Sometimes, however, we find the pair sunning themselves together. When disturbed at such times the female retreats underground, the male flying off as before stated.

When digging to obtain the eggs, we almost always find the female and occasionally both birds, backed up at the extreme end of the burrow. They do not show fight, and when pulled out by the hand offer little resistance, sometimes trying to bite, but seem incapable of doing much harm. The nest is made almost wholly of dry horse manure. The entire burrow is also lined with it and a quantity of the same material is strewn about the entrance. This is our guide when looking for eggs, for it is wholly useless to dig out holes that do not show this sign that housekeeping has actually commenced.

Looking therefore to "surface indications," which tell us when we can "strike it rich," we need waste no labor in digging empty burrows, unless, maybe, we find more young owls than we care to see. In such a case it is not necessary to dig far. If the young are a few days old we can hear them as soon as we commence work. They make a peculiar hissing noise and it is easy to imagine that the hole is full of snakes. Another sure indication of young birds is the amount of food provided for them, and it is scattered anywhere from entrance to end of burrow. This stock of provisions is somewhat varied, and I have found frogs, horned toads, centipedes, scorpions, grasshoppers, four or five kinds of mice, parts of snakes of several species, kangaroo rats, an assortment of lizards, etc.; but in digging out something like one hundred holes have only found fragments of birds once or twice, so that they must be of great benefit to the farmer and deserve his best protection.

In southern California the large Gray Ground Squirrel (*Spermophilus beechevy*) is very abundant and the owls take possession of their abandoned burrows. More rarely they occupy the deserted hole of the badger and fox. Most writers state that the eggs are found from six to eight feet from the mouth of the burrow. This is not my experience, as I have rarely found them without digging eight or nine feet, and all the way from that to

fifteen. But this no doubt varies in different localities, according to the nature of the soil.

Writers of twenty years ago gave the number of eggs of this owl as four, while later authors say from four to ten. I think four seldom, if ever, constitutes a full set. Where incubation had commenced I have never found less than seven, while eight, nine and ten are more commonly found. I once found a set of eleven eggs, and again eleven young birds a few days old. They were covered with white down and were rather pretty. Last April I found my first set of twelve eggs and naturally felt very much elated over it. I knew that they were badly incubated but thought I would save them, no matter how much time it took. I had no time to attend to them until the second evening, and when I went to unpack them, I found that six of the young birds were nearly out of the shell, while the others were "getting there" as rapidly as possible. So I lost the largest set that I ever found, and very likely may never find another with so many eggs.

The eggs of the Burrowing Owl are nearly round, of a pure, glossy white. The range of measurements are 1.16x.98 to 1.35x1.10, averaging for a large lot 1.25x1.03. Fresh eggs may be found from middle of March to 15th of May, and perhaps later, but have never looked for them after that date.

On April 24th and 25th, 1889, near Riverside, California, I dug out twenty-five or thirty nests of this owl. About one-third of these contained young of all sizes up to half-grown, one-third were full sets in all stages of incubation, while the balance were fresh, and ranging in numbers from three to ten.

EXPERIENCE WITH A SICK DUCK.

BY CLAUDE CORNELLE.

On Jan. 14, 1890, I shot a male Merganser, on the Oswego river, about two miles above Phœnix, N. Y. His peculiar actions during the time I observed him before shooting led me to make a thorough dissection after skinning, and to give it to the readers of the O. & O.

As I was pushing my canoe up the river against the heavy current, around a point known as "Flatrock," I saw, about twenty rods above me, a large duck, working around in the shallow water near shore. He moved heavily as though badly wounded, and seemed anxious to get his body behind a small stump. It was impossible to land where I was, on account of the current and high bank. To effect a landing, I was obliged to paddle up within fifteen rods of the duck before I could get ashore.

On reaching shore I took my rifle and worked my way to within about twelve rods; the duck meanwhile endeavoring to get on the opposite side of a stump too small to entirely conceal his body. I saw by his actions that there was something wrong, and sent a bullet through the only part of the body visible to me. No gunshot wounds were found on skinning but the one made by myself.

After properly disposing of the skin, I went to work on the body. Nothing was found throughout the body to give me a clue to the actions of the bird until the windpipe was reached. About two inches from the mouth it was slightly enlarged; the same again about four inches down; but by far the greatest enlargement was at the junction of the bronchial tubes. At that point was a large, shell-like structure, (almost fully hardened to bone) which filled completely the cavity between the neck, or back-bone and the two arms of the wish-bone. In length this structure was 1.50 inches; from front to back, 1.15 inches; from right to left, 1.75 inches; at the left a large protuberance, but none on the opposite side. In general appearance it very much resembled a wedge with rounded edges. The surrounding muscles, also the inner surface of the enlargement had a greenish, slightly rotten appearance on dissection twenty hours after death, weather cool. Tissues of the abdomen showed no signs of putrefaction at the same time.

Last Spring, 1889, I took a "Little Green" with a similar enlargement, the parts of which seemed healthy and the surrounding tissues appeared normal; the bony structure being translucent, almost transparent. Nothing out of common was noted in heron.

Now a question: In case of the duck was the abnormal windpipe the cause of the queer actions? Is this condition frequent? In case of the heron, would it have passed, ultimately, into a more diseased state, similar to that of the duck? Is this condition progressive?

THE SNOWY OWL.

Nyctea Nyctea.

BY E. B. PECK, CLIFTON SPRINGS, N. Y.

This is one of the owls of whose habits very little is known. Few collectors are plucky enough to endure the hardships incident to a thorough study of their habits in their northern breeding place. This bird seldom reaches Ontario, Co., N. Y., and I have never met it here, but I have noted it several times in Monroe Co., whose northern shore is washed by the waters of Lake Ontario.

THE SNOWY OWL.

Dec. 26, 1889, while on a collecting trip up the lake beach in Monroe Co., I came to a point of land jutting out into the lake some little distance. Near the end of the point stood an elm tree. On one of the lower branches I saw an object, which, at a distance, looked like a bunch of white paper flapping in the wind. When almost within shot-gun range, I saw it was a Snowy Owl. I began to creep toward him, but was disappointed, for he spread out his white wings and sailed over into a lot and sat on a stone-pile. I crept after him but I could not get near enough for a shot. I gave it up in despair, tramped

back to the hotel, ordered my horse and drove homeward. On arrival home there was a letter from a friend, stating he had a white owl for me. Two weeks later I received a fine specimen from Yorktown, N. Y. It is now mounted and in my collection.

The measurements were as follows: extent, 5 ft. 8 in.; length, 28 in.; tail, 9 in.; male.

The plumage of this species is almost pure white, marked by dusky-brown on some of the feathers of head and back. The female is much darker than male, only the face, fore neck, middle of breast and feet being white; the other parts being heavily barred with dusky.

The eggs are 5—10. 1.76x2.24, pure white.

AMONG THE GULLS AT DUCK ISLAND.

BY CHAS. S. BUTTERS, HAVERHILL, MASS.

My article in the last number of the SEMI-ANNUAL, described a visit I made to an island off Portland Harbor, and securing a number of eggs of the Common Fern and Leach's Petrel.

After leaving that island, we started down the coast, headed for Mt. Desert, Me. It must be remembered that this was a fishing trip, and being the only oologist on board, I could not spend the time collecting that I wished to.

The coast from Portland to Mt. Desert is lined with islands, large and small. I think these islands would make good collecting grounds, but as it was rather late in the season I could not do much. I heard that on one of the islands, the year before, the American Herring Gull had been found breeding in large numbers. That was the island I wished to visit.

During the next few days I went ashore on quite a number of islands, finding a few Tern's eggs, and on one island I found a solitary nest of the Herring Gull, containing two eggs, which I collected. Not far from this nest some of the men found a pair of young gulls, about two-thirds grown. After a long chase they were captured and brought on board.

On the evening of July 13, we rounded the outer point of the island we had been searching for, (called Duck Island, and situated about twenty miles from Bar Harbor, off the coast) and dropped anchor about thirty rods off shore.

I wish you could have heard the noise. I thought I had heard "bird music" before, but I never did until that night. The Gulls were making an awful racket, and they kept it up all night.

The next morning we were up soon after day-break. A hasty breakfast and all hands started ashore, anxious to learn where all the noise came from the night before. On landing we started for the extreme point of the island: the point of the greatest racket.

The island was covered with a wild growth of spruce and hemlock, and about thirty feet above the sea level. The shore was very irregular, and covered with great, jagged boulders; quite a rough looking place. As we walked along we would occasionally find a nest with two or three eggs, but none to amount to anything until we reached the point of the island. As I stopped to look at a nest I found on the way, a few of the party arrived at the point some time before I did. I got there at last, and looked around me. I wish the readers of this article could have been with me. It would have made any collector, who had not seen this bird at home, open his eyes. There were nests in every direction. The men who had arrived first had collected eggs, and after marking had placed them in a pile, until they had almost a peck. They had collected young birds that were about two-thirds grown, to the number of twenty or more.

I could not begin to tell the number of nests; they were everywhere. Some of them were placed behind some rock or stump, as if for shelter; others were on the open ground.

Some of the nests were built very well, being about 15 inches in diameter and made of grass, sea-weed, etc., but the majority of them were just a little hollow in the ground, with a little dried grass in it, and on that the eggs were placed.

Most of the nests contained three eggs, but a good many of them only had two; incubation quite far advanced. Young birds were everywhere, and of all sizes.

While we were there, the old birds were sailing around overhead, and they were far from quiet, too. After sets and birds enough had been collected, we left for the boat, which was reached without mishap.

As we were going out to the yacht, I saw some strange birds flying over the beach a short distance down the shore. I persuaded one of the crew to row me down to them. I saw one of the birds flying over the water, and it looked as if it had a bright red tail. On shooting one it proved to be a fine male specimen of the Black Guillemot, and as its tail is quite short and feet red, it gave it the appearance, when flying, of having a red tail. I found these birds quite plentiful among the rocks. This was the only island on which I found them.

That they were breeding I soon found out by hearing the young among the rocks, but we could not get at them. I think it was too late for eggs. I found a few pieces of shells lying around on the rocks.

After dinner I began to prepare the eggs I had taken. I found I had quite a job before me, and it was three days before I finished them, preparing a few at a time. I was not able to save more than one egg out of six, as some of the birds in them were very large.

The young birds were kept in a pen on deck; fed on fish, clams, lobsters, etc. It was quite a job to furnish them with food, but they afforded us much amusement during the rest of the trip. Some of these same gulls may be seen in Haverhill to-day, seemingly as contented as at the native islands.

DIFFICULTIES.

BY C. S. BRIMLEY, RALEIGH, N. C.—MARCH, 1890.

Collecting eggs has its disappointments and perplexities as well as successes, and as the collecting season will soon be here, a few remarks on the subject may be in order. One difficulty that has often bothered me is how to find out when a nest contains a full set of eggs, in a case where it is impossible to look into the nest, and this often causes one to leave the next nests too long, and then the set, if saved, is adorned with holes one could almost get one's head through (figuratively speaking, I mean).

For instance, last spring we located a number of Pine Warbler nests building, and decided on a certain day to take them.

Now these nests had all been commenced within a few days of one another, and there was no reason for supposing one nest much more advanced than the rest. The result was as follows: 1st, set of four fresh; 2d, a beautiful nest empty; 3d, three eggs incubated; 4th, set of four commenced; 5th, one egg. This was the only nest we could feel in, and we afterwards took a set of three from it; 6th, an empty nest; yet all these ought to have had full sets of fresh eggs.

Then again I found a Nuthatch's nest in a dead stub in a swamp; I knew there ought to be a nest somewhere near, but from the date was afraid the eggs would be incubated. The stub was rotten and the climbers did not hold well, but I got the result of my labors in safety—four fresh eggs.

Then again Hummingbirds have a bad habit of building their nest where one can't get at them. I had one curious but fortunate experience with one last summer. I had found an old nest and was looking around, when a Hummer made a fuss and I located her nest right away. It was built in an oak sapling, the top of which was bent over so as to be horizontal, and here, 15 feet from the ground, was the nest. I managed to get a cord over the top of the oak, and hung my hat, full of cotton, underneath to catch the eggs if they tumbled out. Just as the nest came within reach, the cord slipped, the oak jerked up about a foot and away went the eggs. I found them both unharmed on the dead leaves below.

Nuthatches, both species of Tit, Pine Warbler, Gnatcatcher and any other small birds, who build nests where one cannot tell the number of eggs without taking the nest, are always more of a trouble to get full, fresh sets from, than species like the Yellow-breasted Chat, whose nests one can look right into and see how many eggs there are, and then leave if there are not enough.

Another difficulty which I will not enlarge on now, is how to take a desirable nest when found. In some cases, a long reed with the point sharpened comes in handy to poke through the nest and then dislodge it and bring it safe to hand. Miniature grappling hooks attached to the reed also serve the same purpose. Another method is to hang one's hat, filled with cotton, below, and then poke nest and eggs off the limb into the hat. (We have taken several sets this way.)

NESTING OF THE TURKEY BUZZARD.

Cathartes Aura.

BY JNO. A. DONALD, DECATUR, TEXAS.

This bird is quite a common resident in this locality. A few notes concerning the nesting of the species will, no doubt, prove of interest to the readers of the SEMI-ANNUAL. I have only been a student of the science for the past three seasons, during which time I have found and examined personally eleven nests of the Turkey Buzzard, and shall confine myself to observations of the same taken from my note-book.

THE TURKEY BUZZARD.

The first nest, found during the above period, was on April 5th, 1888, contained one egg and was on the ground, in a thicket, under a log.

I did not disturb it, but waited until the 10th in order to get a full set. On visiting it on that date it still contained one egg, which I took; incubation about 1-2. This egg measures 2.74x1.94. It is of a dull, creamy, buff color, very evenly spotted with dark brown—the spots around the larger end being thicker and heavier than those of the smaller.

The next nest found was on May 6th, 1888; contained three eggs and the broken shell of another. These eggs passed out of my hands soon after finding them, and for this reason I cannot give a description of them. On comparing them I decided that they were the product of two pairs of birds, as the markings of the broken shell and one egg were very different from those of the other two. The eggs were placed on a bed of leaves, in a thicket. Set 3-2 was collected June 5th, 1888, but the eggs were too badly incubated to save. Nest was on the ground in a thicket.

In 1889, the first nest was found on April 20th; contained two fresh eggs, and was on the ground, under a large rock, on a prairie branch. One of these eggs was very thickly spotted with small spots and blotches of varying shades of brown, while on the other the spots were very large and scattering.

On May 3d, 1889, I found a nest containing two young Buzzards, just hatched. This nest was in a thicket, on the ground. The young birds were covered with a dirty, white down, and although hardly able to sit up, were pecking at one another.

On March 22d, 1890, I found two nests, each containing one egg. I took both and replaced with turkey eggs. On returning four days later, I found one nest deserted and the turkey egg broken; while in the other I found another Buzzard egg had been laid, which egg I collected. This set (2-2) measures 2.64x1.92 and 2.66x1.91; are dull white in color, with large, irregular blotches of very pale brown, over which are a number of smaller spots of dark brown. Both of the above nests were placed under ledges of rock, on the ground, near a prairie branch.

On April 14th, 1890, two nests were found, each containing two eggs; set 3-2 being fresh and placed under a ledge of rock, and set 4-2 was slightly incubated. The coloration of set 3-2 is almost precisely like the set found on April 20th, 1889, and measures 2.79x1.87 and 2.75x1.87. One egg of set 4-2 was broken in collecting, and the other measures 2.64x1.99; the larger end is heavily spotted and blotched with drab, umber and dark brown, while the smaller end is almost unspotted.

Sets 5-2 and 6-2 were found April 22, 1890; both being placed under ledges of rock, along a prairie branch. Both sets were fresh. Set 5-2 is about a typical set, being creamy white and irregularly spotted with different shades of reddish brown; one egg being heavily marked while the other has only a few spots about the larger end and a very few small ones elsewhere. The eggs measure 2.90x1.83 and 2.79x1.81.

Set 6-2 is the most beautiful set of the species I have ever seen, being clear white, with numerous lavender and purplish shell markings, over which are large blotches of dark red and dark brown. Measurements, 2.83x1.94 and 2.74x1.93.

Of all the eggs that have come under my notice, the shorter has fewer and larger markings than the longer. This I have not noticed to be true of the Black Vulture.

THE PRAIRIE HORNED LARK.

Otocoris Alpestris Praticola.

BY LYNDS JONES, GRINNELL, IOWA.

There can no longer remain any doubt that Prairie Horned Lark (*O. a. praticola*) does occur pretty generally east of the Rocky Mts., most commonly in the Mississippi valley, north of Arkansas. Too many specimens have been taken near and on the Atlantic coast for one to say that it is a straggler so far east. Its close resemblance to the eastern form—smaller and a "leetle paler," makes it somewhat confusing, occurring as it does in company of *alpestris*. While you of the east are searching among *alpestris* for *praticola*, we of the Miss. valley are searching among *praticola* for *alpestris*; you for the eastern gradation, we for the western.

As the result of a somewhat extended search, I have about 40 skins before me, besides the careful record of many taken which were not skinned. After a close study of "Coue's Key," "Ridgway's Manual" and Mr. W. Henshaw's excellent article in the "Auk," (Vol. 1, p. 264) I concluded that *alpestris* would be most likely to be found among the brighter colored birds. Accordingly I have selected five very bright skins, (none of the others being at all bright) and find their measurements to be as follows (measurements are of the wing only): 4.10, 4.09, 4.08, 4.04, 4.03 inches; dwarfs if they are *alpestris!* The wings of five very pale skins are, 4.18, 4.15, 4.13, 4.12, 4.12. All are in breeding plumage. I give also the wing measurement of five females: 4.00, 3.88, 3.88, 3.78, 3.76. Thus it is seen that while the bright colored males average 4.07, the pale ones average 4.14, and the females 3.86. Even my largest male (which, unfortunately, is the palest of all) does not come with 2-100 of an inch of the smallest *alpestris*, according to Ridgway, and the largest bright colored one falls a whole .10 below! No *alpestris* here! Mr. Ridgway makes the average *praticola* 4.13; mine are 4.12, lacking the larger eastern individuals. Mr. Henshaw makes the male and female average even larger than Mr. Ridgway.

Central Iowa birds are colored as follows: Nape, occiput, sides of neck and breast, lesser wing coverts, upper tail-coverts, light vinaceous or pinkish cinnamon; back, scapulars, rump, grayish-brown, the feathers with darker centers, especially on the rump; middle wing-coverts light vinaceous or pinkish, terminally, dusky; wings otherwise grayish-brown, the feathers paler edged, and outer web of outer primary mostly white. Middle pair of tail feathers light-brown, with paler edges and darker central portions; remaining tail feathers dark brown or black, outer web of outer pair edged with white, like outer primary. Forehead, superciliary stripe, chin and throat pale straw-yellow; often no trace of yellow on forehead and above eyes; the yellow of the throat very variable, from deep primrose-yellow to pale straw-yellow, or scarcely a trace of color. Fore-part and sides of crown, continuing laterally back and above eyes, including the ear-tufts, lores, sub-orbital region, broad patch on cheeks, and jugular crescent extending to lower part of throat, deep black, more or less overlaid with grayish-brown. Anterior portion of ear-coverts, white; posterior portion, grayish-drab. Other lower parts, grayish-white, the sides indistinctly streaked with dusky; belly sometimes distinctly washed with black. Upper mandible, dark plumbeous, lower, bluish-plumbeous; ivis, deep brown; feet and legs, brownish-black. Females are paler and browner throughout. Young are speckled all over with more or less brownish.

For a month previous to the first hard frosts, and indeed until winter sets in in earnest, the Larks are seclusive and hard to find; but the cold north winds and snow drive them together in flocks often numbering 20 individuals. Within a radius of three miles there are 15 or 20 such flocks, each having its particular feeding and nesting grounds. Week after week, and month after month I find the same flocks and same individuals at their old stands, and I can tell when a newcomer is there in the place of a fallen comrade. Ten and often twelve times a week I pass them and note their ways and actions, often approaching within ten feet of them. There is a difference in birds of the same species.

After a heavy fall of snow, the Larks burrow in the drifts at night and then allow the drifting snow to cover the opening, leaving no trace of the birds. In early morning you may rouse

them up from this sort of couch before the sun has touched the snow-capped hills and awakened the resting birds. As they rise with a little volcano of snow and a startled cry, in swift and irregular flight, you, yourself, are startled and hardly recover before they have dropped to a convenient cover to rub their eyes open. When there is little or no snow, the Larks pass the night in the long, dry grass in the bottom-lands or sloughs.

During the day they fly hither and thither in flocks, or perch upon a post or clod of dirt, ever and anon uttering their long-drawn sa-w-e-e-e or s-w-e-e-e-e, ending in a rising inflection; it is the only winter song on our prairies; others sing in the woods, but the Larks alone in the fields. One cold winter I found them in the barn-yard in the midst of a grove; it is a rare occurrence.

While the country is snowbound they prefer the road, because, no doubt, grain is more plentiful there. Yet they never wander very far from their accustomed grounds unless the weather is very inclement for a long period. If there are any bare spots on the hills, there the Larks gather and feed.

When the warm south winds bring balmy days in late winter and early spring, and winter's mantle begins to get ragged at the elbows and knees, all nature seems to rejoice. Then it is that the Larks begin to sing. Flitting and soaring directly upward until but a speck, a dot in the azure sky, one sends his notes dropping, rattling all around, soaring all the while. Unless you have closely watched him, you will look for him first here and there along the ground, whence the song seems to issue forth. Then, when you have abandoned the search, like a meteor straight down he dives, gracefully spreads his wings and rests on a convenient clod near by, once more uttering his rattling ti-s-r-i-l-i-e-e-e-e, that sounds like a distant rattling chain. During the pleasant days, as early as January, this song comes from everywhere, mingled with the other notes.

Otocoris' courtship is interesting indeed; but this paper is already too long, so this and his nesting habits must be left for another time.

DEPARTMENT OF THE

WILSON ORNITHOLOGICAL CHAPTER

OF THE

Agassiz Association.

Our Chapter has steadily increased in membership and in the interest taken in our work since our last report, and will have an instructive and interesting report of our study of the Warblers and further study of the Thrushes during this season, to present to our members in the January SEMI-ANNUAL.

The success of the Wilson Chapter depends upon the diligence with which each member studies the bird-life of his own locality, and any special subject in which he is engaged. The study of bird-songs is being energetically carried out by Mr. Bridgham and his associates, and Secretary Lynds Jones is carefully directing our investigations in nidification.

The list of synomyms of Thrushes, given in this issue, was gathered from outside sources, although if observers would report on this subject, the result would be of value in our work.

The study of the food of birds will be undertaken as soon as a sufficient number of observers become interested in the subject.

These special departments of ornithological investigation, if continued as commenced, will yield most valuable results.

CHANGE IN CONSTITUTION.

The proposed change of the part of our Constitution relating to membership, has been adopted by the chapter.

Since June 1st the new rules have been in force, and will be of great service in the transaction of business.

Article III now reads:—

Membership shall consist of Active and Associate members.

Active members only, can vote and hold office.

Any student of birds in the United States may be admitted to Associate membership by the President.

Active members shall be limited in number by the Executive Council; provided that the number shall not exceed one hundred, or be limited to less than twenty-five, except by a majority vote of the Active members.

Active members shall pay annually, in advance, one dollar to the Secretary of the Chapter, for which amount he shall receive the official organ and all publications of the Chapter.

Active members may be admitted semi-annually, by a majority vote of the Active members, after a recommendation by the Executive Council.

Application for Active membership should be made to the Secretary.

Non-payment of dues for one year shall cancel their name from the roll of Active membership.

No dues shall be charged Associate members.

Associate members shall be unlimited in number and may be admitted at the discretion of the President of the Chapter.

MASSACHUSETTS ASSEMBLY.

The third annual convention of the Massachusetts State Assembly of the Agassiz Association was held in Fitchburg, May 30.

President Albert H. Hall of the Assembly fittingly responded to the address of welcome by the Rev. William H. Pierson of Fitchburg, after which an address on "Vertebrate Embryology," by Prof. F. E. L. Beal, and one on the "Study of Botany," by E. Adams Hartwell, were well received.

Mr. Ballard's address on the "Agassiz Association" was deeply interesting, and presented clearly the object and position of the Association, ending with advice relating to our future work.

The reports of Chapters 29 of Boston, 591 of Hyde Park and 48 of Fitchburg were of special interest to the delegates present.

Members of the Wilson Chapter who attended the convention are especially indebted to President Albert H. Hall and Secretary Howard M. Ballou for courtesies extended.

THE THRUSHES.

From 1889 Reports by Members of the Wilson Ornithological Chapter.

REPORT OF CHARLES D. OLDRIGHT, AUSTIN, TEXAS.

Species found in this county (Travis).

Wood Thrush (*T. mustelinus*), Winter visitant—common.

American Robin (*M. migratoria*), Winter visitant—abundant.

Catbird (*G. carolinensis*), Transient visitant—tolerably common.

Mockingbird (*M. polyglottus*), Resident—abundant.

Brown Thrasher (*H. rufus*), Winter resident—rather common.

Habitat: The Wood Thrush is found, during its stay with us, in thick woods, usually in the bottom lands, near rivulets and creeks.

The Robins congregate in flocks (sometimes very large) and stay in the large hackberry trees (feeding on the berries) and other trees in the bottom lands, also in the cedar brakes, and during rainy weather they are restless, flying from one tree to another.

Catbirds are found in thick woods and dense thickets; are probably common, but not frequently noticed owing to their retiring habits.

The Mockingbird frequents rather open places—borders of woods, clearings and roads, also found on prairies in the few trees scattered over them in clumps, or if covered with mesquite trees (which never form thickets) the "Mocker" will nest in them. This bird is always found around a farm-house, nesting in the orchard if there is a place, if not then in some tree close at hand. In the winter most of them retire to the tall timbers and thickets.

Brown Thrasher. This bird is to be found in woods and thickets where there is a dense growth of underwood, in which it dwells, remaining mostly on the ground.

Nesting: The only species of this family that nidificates with us is the Mockingbird. It commences laying about April 1 (nest containing nearly fledged young found April 30) and continues

until the middle of July. Two nests found July 12, 1889, one of which contained one egg, the other three, with bird sitting. Nests are constructed of twigs, the species of plant varying according to location, *e. g.* nests in the mesquite region are composed of the thorny twigs of that tree. They often contain weed-stems and a plant known here as "Indian tobacco." Inside, the nests are usually lined with roots of grass or other small rootlets, while sometimes extraneous substances enter into its composition as string, wood, paper, rags, etc. Nests are placed in any tree that is convenient, often in honey-suckle or other climbing vines, or in the corner of a "Virginia" rail fence. The height varies from one to forty feet from the ground—in woods usually from six to fifteen feet. Nest is always solidly placed in a fork or resting on a large limb.

In 1889 first set *taken* (not first set found, for I left some before this) was on April 26, incubation commenced; nest in elm tree, seven feet up. The set contained four eggs of Mockingbird on April 24th and on the 26th contained three eggs of "Mocker" and one of Dwarf Cowbird; bird seen. Next set taken May 5, four eggs; incubation, large embryos. Nest placed in a cedar tree, two feet six inches from the ground. May 19, five fresh eggs; nest in a mesquite tree, fifteen feet from ground. May 20, four eggs, small embryos. Nest fifteen feet up in a post-oak. Another nest ten feet from ground in a live oak contained five eggs; incubation commenced.

June 2d. Four fresh eggs; nest in an elm bush, 2 feet up. No birds seen. Description: No. 1, pale, dull green, with large confluent ring of reddish brown; spots around larger end and some distributed all over the egg; size .90x.69. No 2, same ground color, almost obscured by spots and blotches of pale brown. Blotches of darker reddish-brown form a broken ring around crown; .87x.70. No. 3, scarcely distinguishable from No. 1; .88x.70. No. 4, markings same as Nos. 1 and 3, but more evenly distributed; .87x.70. This is a rather peculiar set, so not typical. They are all smaller and more globular than usual.

Another set collected May 29, 1889 by G. M. near Austin, represents another phase; five eggs, incubation advanced, nest "as usual." No. 1, pale blue, spotted all over but most thickly at the large end with distinct spots of chestnut and obscure purple;

1.05x.71. No. 2. Same ground, blotched with chestnut and obscure purplish. Blotches about .15x.15, mostly on crown; 1.03x.72. No. 3. In this egg the lilac predominates. Large spots of it and brown mostly on crown, 1.00x.70. No. 4 Spotted and blotched with purplish and brown; incomplete ring; 1.06x.71 No. 5. Spotted and blotched all over with purplish and chestnut; 1.00x.72. Ground color in all the eggs is the same—pale blue. They are pretty eggs but not typical.

What I consider a typical set may be described as follows: five eggs collected by G. M.; incubation "advanced." Nest of sticks, Indian tobacco, etc., lined with rootlets and hair. No. 1, bluish-green, with small spots of reddish and lilac distributed uniformly over the surface. A few larger spots form a ring around crown; 1.06x.71. No 2, bluish-green, with large confused spots of reddish and obscure lilac distributed uniformly; 1.01x.70. No. 3, same coloration as No. 1; .99x.71. No. 4, spotted less thickly and with more purplish than No. 3; .99x71. No. 5, bluish-green, with large and small spots of reddish and lilac, mostly on large half of egg, 1.01x.71. Average size of ten eggs, 1.02x.71.

Mockingbirds' eggs are very variable, being found any color from gray with a solid ring of red, to bright blue with bold spots of dark brown and chestnut, or an almost uniform brownish, or only freckled with reddish, but it is only in a large series that such varieties are found. I know of one so-called "runt" Mockingbird's egg which is just the size and color of a Field Sparrow's egg. I do not think that the eggs differ in size or color according to lateness of season, but I *do* believe that the second brood, in June, consists of four, while five are frequently found earlier in the season. The number of eggs is usually four or five. I have never taken a larger set than the latter number, but sets of six are sometimes found. I have found a few sets of three, but I suspect that one or more eggs had been removed.

Dwarf Cowbirds' eggs (*Molothrus ater obscurus*) are but seldom found in the "Mocker's" nest, but this year several were found. They were also found in other unusual places, nests of Cardinal Tanager, etc.

The natural enemies of the five species are the usual enemies of birds viz. the larger *Falconidæ*, small carnivorous mammals, and many species of snakes. No special enemies observed.

Mockingbirds are brave in attacking cats that attempt to approach their nests. They will often astonish a dog by unexpectedly alighting on his back and administering a sharp peck.

Flight: With exception of the Robin the birds comprised in this group are not addicted to continued flight; they fly easily, in a straight line, and move the wings moderately rapid. As far as I have observed, they hop when on the ground.

Song: Of the thrushes found here only the Mockingbird sings while with us, but all the others sing during the summer when in the north. The "Mocker" sings mostly during the spring—seldom at other times. He sings all day and sometimes all night (I have heard him at midnight and at 3 o'clock a. m.) The Mockingbird imitates very many sounds that it hears and also has many original notes; its song consists of a blending of these songs of other birds with its own notes

If a Mockingbird is kept near any song bird for some time it will imitate it. Mocking birds seldom imitate the notes of the Woodpeckers, but a man in Austin kept a number of young birds near a Woodpecker's nest and as soon as they began to sing they commenced calling like the Woodpeckers. Favorites with the Mockingbird, are the Blue Jay (himself a mimic) the Scissor-tailed Flycatcher and Tufted Tit. He will imitate the cries of a young chicken or other like sounds. I have never heard him mimic a cat or dog, but no doubt he can do it. Only the male birds sing— in cages the females do not sing, and I suppose that they do not sing outside. The notes of the Mockingbird are to be distinguished from the notes of the other birds he mimics, not by the sound, for they are exact reproductions, but by the fact that he utters them but two or three times before discarding them for others. One of its favorite notes is the cry of the young birds for food. It is a shrill "ee-ee--ee," and one often hears and old "gray-head" stop in the middle of his melody to squall like a hungry youngster.

Food: Wood Thrush, mixed diet, insects and seeds.

American Robin, almost wholly grainivorous; feeds on cedar, china and hack-berries and winter grapes.

Mocking-bird, feeds mostly on berries—poke, china and hackberries, mulberries and grapes. They eat some fruit, taking a bite from a peach or plum, but they do little damage. A few insects are also eaten.

Brown Thrasher, seeds, small snail shells are often found in its "crop"; no insects have been found by me.

REPORT OF LYNDS JONES, GRINNELL, IOWA.

Merula migratoria, Robin Red-breast.

Feb. 27, first one; next, Mar. 11, several; common, Mar. 12. Found everywhere during migrations, anywhere except in marshes while breeding. Nests are as often found under bridges as in trees in proportion to the number of bridges. The choice of location, if there is any choice, is in the crotch of a shade tree in town, preferably above the walk. This applies also to well-travelled wagon roads in the country.

The nest is almost universally composed of grass and straw externally, well bound together by a thick coat of mud, which in turn is overlaid, or inlaid with rootlets; the mud shows through the rootlets internally but is hidden by the grass and straw externally. Nests are always saddled on to branches of trees or into their crotches, but built flatly on timbers of bridges or buildings unless so small that the nest can be saddled on. The round poles in the roofs of old straw-covered sheds are a good example of the last.

The nest is never on the ground but may be within a few feet of it or 60 feet up. 20 feet is the preference in trees; 6 to 10 in buildings. It may be a few feet above running water, or a mile from any stream. Three eggs is the normal set here. The different sets vary but little in coloration. The extremes are pale blue and torquois blue. First nest, April 1; last, June 15; height of season, May 10.

Crows, jays and chipmunks disturb their nest, as well as wood mice.

Hylocichla mustelina, Wood Thrush; "Veery."

First, May 5, ten; next, May 6; common May 9. Found everywhere during migrations. Its favorite resort is the deep woods, usually in close proximity to water. The deep shade of city shade trees is also a resort.

The nest is always in a tree or bush; if a tree, it is saddled on to a branch either at its junction with the tree or far out on the branch; if in a bush, it is saddled into a thick bunch of brush. Nests vary in height from 4 to 10 feet; rarely the latter distance, commonly 5 or 6 feet. Oak trees are the preference.

Nests vary but little in composition. An external covering of grass, with some white or very light colored material, unlike the Robin in this respect, which seldom or never uses so light material in the construction of its nest; and fine rootlets for the lining. Between the lining and outside is a strong, firm layer of rotten wood, never mud. In one or two nests I have found old horse droppings.

Four eggs is the usual set here, never more, often less. Eggs are smaller than the Robin's and darker—nile blue. I see no variation in color. First nest, May 20; last, June 27; height of season, June 5.

The chipmunk is decidedly the worst enemy in breeding season; Jays and Crows disturb it.

Turdus fuscescens, Wilson's Thrush.

First, May 9, 40; next, May 10; common May 9; bulk departed May 18; last seen May 30. Seldom seen outside of the woods, except among the trees in town. Keeps mostly to the upwoodlands, not usually very near water. The bird is retiring in its habits and avoids man.

Turdus aonalaschkæ palasii, Hermit Thrush.

First, April 13, 1; next, May 2; was not common; bulk arrived May 5; bulk departed May 9; last seen May 10. Very retiring; keeps well to the deep woods, where it may be found high up among the trees. I have found it most common in the vicinity of water. It was a common migrant in 1887.

Turdus ustulatus swainsonii, Olive-backed Thrush.

First, May 9, 50; next, May 10; common May 9; bulk departed May 24; last seen June 2. Their range is much the same as the Robin's, except that they are not found away from timber or brush of some sort. Olive-back swarms in the woods, both in the country and in town. He is seen everywhere while here—one place is no more favored than another by him.

Galeoscoptes carolinensis, Catbird.

First, May 5, 4; next, May 6; common May 6.

This is a wood-bird strictly. Few are seen in town, and none in fields away from woods.

The nest is almost always placed in a thorn bush or hawthorn tree, rarely in a thicket of hazel. It is built into the brush that surrounds it, the sticks that compose its exterior blending into

this brush. Internally it is made up of grass, leaves, fibrous bark and sometimes a few horse-hairs. The grass usually if not always sticks through the outer covering—a feature, together with the external covering of sticks, that will always determine the species to which it belongs. Nests are rarely above 10 feet up, commonly 5, not seldom 3. 4 and 5 eggs in the set, never 6, *rarely* 3. The color is much darker than Robin's or Wood Thrush's eggs. The darkest is beryl green, the lightest torquois blue, with a strong wash of beryl green. Eggs vary from rounded ovate to elongate ovate in form.

First nest, May 16; last, July 10; common June 6. Chipmunks and small boys are their enemies.

Harporhynchus rufus, Brown Thrasher.

First, April 21, 1; next, April 22; common April 25 Found everywhere among trees and brush; less common in deep woods. It nests anywhere, either on the ground—rare position—or in bushes or trees. The Osage Orange hedge rows are decidedly the preference here; the proportion of nests in hedges to nests elsewhere is as 4:1. I have never found a nest above 8 ft. up—4 ft. is the normal height.

The nest is large and sprawling with its profusion of sticks, outwardly. Inside the sticks is a layer of leaves and grass, against which the lining of rootlets is laid. The rootlets are never absent nor does any other material enter into the composition of the lining. The nest is built on or into its support, never "saddled."

The 4 (common) or 5 (less common) eggs vary in size and shape as well as in color and markings. Ovate is the common form, but both short and elongated ovate are not rare. The ground color varies from a pearl gray or almost white to a beautiful pearl blue. The latter color is not common. The spots vary from burnt umber and walnut brown to drab. Some specimens are heavily blotched and spotted over the entire surface, the blotches becoming larger at the greatest girth of the egg; while the others are scarcely blotched, though well spotted with all these colors. The one has the appearance of a decidedly brown egg while the other is very light. The bluish shaded specimens fade after being blown.

White-rumped Shrike, field mice and small boys bother this bird when it builds in the hedge; the chipmunk and Jay in the woods. First nest, May 5; last, June 28; height of season, May 18.

REPORT OF WILLARD N. CLUTE, BINGHAMTON, N. Y.

Wood Thrush. First seen May 4, one; next seen May 6. Found in the uplands.

Wilson's Thrush. First, May 9, three; next seen May 10; common May 11. Generally near water; especially along creeks in the woods; in swamps, if wooded; in fact, anywhere near water. It may also sometimes be found in dry woods.

Hermit Thrush. First, April 11, one; next seen April 14.

American Robin. First, March 12, one; next seen March 13; common March 17. Seldom found in the deep woods—usually in the vicinity of man.

Catbird. First, May 10, one; next seen May 11; common May 12. Found along streams.

Brown Thrasher. First seen, April 20, two; next, April 24; common April 26. Found in open woods; they seem to prefer a wood moderately clear of underbrush.

Nesting: Wilson's Thrush, nest generally placed on the ground in damp situations in the woods; composed of leaves, grasses and fine strips of bark, and lined with fine rootlets. The earliest nest found May 20. Two broods are sometimes raised. Eggs, 4, blue.

American Robin, nests in vicinity of man, placed anywhere about the house or out-buildings, such as on a beam, or post, in corners of rail fences, on window cornices, and in fact any convenient shelf. Nests of this bird are very common in orchards. In the woods, the Robin seems to prefer a pine in which to place its nest. I have found many nests on tops of stumps in newly-cleared tracts, and in two instances have known these birds to build nests in a dead and leafless tree along a city street, and hatch out their young without molestation. Another nest found was in a hole in an apple tree. The nest was situated about six feet from the ground. The hole was formed by the rotting away of a large limb; it was about ten inches deep and eight inches across the entrance. The nest was composed of the same material and did not differ in size and shape from other Robins' nests. The composition of the nest differs in different locations; when near the house it is composed of twine, rags, grass, etc., and

lined with mud and grass; when at a distance from man, the twine and other materials which may be picked up around buildings are omitted, and the nest is built of grass, rootlets and weed-stalks. I have never found a nest that did not contain the mud lining, though it differs in thickness in different nests. The lining is generally of grass blades though, in the woods. I have seen the nest lined with pine needles.

The bird begins breeding in this locality about April, and two, sometimes three broods are reared during a season. The eggs are three or four, rarely more; blue.

Catbird. In this vicinity the nests are seldom found anywhere except in thorn-bushes; sometimes are placed in thick clumps of berry-bushes, but not often. The nest is generally from four to six feet from the ground, but I have found one nest two feet from the ground, and another fifteen feet from the ground in an iron-wood tree. The nest is usually composed of coarse twigs, strips of bark and weeds, lined with rootlets.

The eggs are four in number; I have found five—dark greenish-blue. The earliest nest I have found in this vicinity was taken May 20, 1887. By the end of May nests are common. I believe two broods are raised during the season.

Brown Thrasher, nests on the ground or in a brush-pile. Nest composed of grass, weed-stalks and leaves, and lined with rootlets. The eggs are four or five, light bluish-green, speckled with brown all over. I believe but one brood is raised during a season.

Report of FRED W. CURTIS, Wauwatosa, Wis.

Robin, *Merula migratoria*.

First were found March 9, two birds seen; next seen March 12; became common March 15. Frequents the vicinity of dwellings, groves and orchards. May 3 a set of 3 eggs taken, incubation advanced. Measurements: 1.08x.78; 1.10x.80; 1.06x.78. Color, a uniform blue.

Nest composed of grass, straw and roots, lined with dry grass and plastered with mud, and placed 8 feet from the ground in a maple. Nests were found containing from three to five eggs. Eggs were found as late as July 1. A nest examined July 20 contained young birds, about one-third grown.

Catbird, *Galeoscoptes carolinensis*.

First one found May 3; next, May 4; common May 7. Favorite haunts are thickets and orchards. A set of four incubated eggs found June 9. Measurements: .91x.67; .91x.68; .91x.67; .93x.66. Color, a very deep bluish-green. Nest made of sticks, bark and leaves; very roughly constructed, placed two feet from the ground, in a thick bush. Nesting of the Catbird is late in this locality.

Wood Thrush, *Turdus mustelinus*.

First were seen May 5, two; next, May 6; common May 7. Found in low damp tickets, in the vicinity of streams. June 9 a set of incubated eggs measuring 1.00x.71; .96x.71; .96x.71; 1.00x.71. Nest composed of leaves and strips of bark from weed-stalks, straw with mud on the inside, rather shallow, placed upon a limb of a thorn three, four feet from the ground, near a stream. The usual complement of eggs appears to be three or four. Color, a light blue.

Report of REUBEN M. STRONG, Wauwatosa, Wis.

Robin. Very common breeder. Our most common summer resident excepting the English Sparrow. Arrives about the fifteenth of March.

Wood Thrush is a common migrant and also breeds.

Wilson's Thrush. Common migrant. I have found two sets, one of four eggs and the other of two.

Catbird. Next to Robin in abundance. Arrives in April. Breeds.

Brown Thrasher. Common summer resident. Breeds. Arrives the middle of April.

Report of E. EUGENE FERNHOLZ, Jefferson, Wis.

Wood Thrush. Tolerably common summer resident. Breeds.
Robin. Abundant summer resident. Breeds.
Catbird. Common summer resident. Breeds.
Brown Thrasher. Not very rare summer resident. Breeds.
Nests are found in bushes and on the ground.

Report of H. P. T. WEATHERN, Farmington, Me.

Hylocichla Mustelina, Wood Thrush. Common summer resident. Breeds.

Merula migratoria, Robin. Abundant summer resident. Breeds.

Galeoscoptes carolinensis, Catbird. Common summer resident. Nests always found along banks of streams.

Harporhynchus rufus, Brown Thrasher. Common summer resident. Breeds.

Report of JOHN B. LEWIS, Eubanks, Kentucky.

Wood Thrush. Common summer resident.

Brown Thrush. Tolerably common summer resident.

Catbird. Abundant summer resident.

Robin. Generally a transient visitant, but occasionally breeds.

Report of W. N. COLTON, Biddeford, Me.

Wilson's Thrush and Hermit Thrush Common summer residents.

American Robin and Catbird. Abundant summer residents.

Brown Thrasher. Rare summer resident.

SYNONYMS.

Following is a list of the synonyms applied to various members of the Thrush family in different localities:

Turdus mustelinus, Wood Thrush—Flute Bird and Swamp Robin in New York, and is reported by Burroughs as called "Swamp Angel" by the people in the Adirondack region, on account of being found, during the period of song, in the deepest and most remote forests, usually in damp and swampy localities. Also known as Song Thrush and Wood Robin in District of Columbia and other places.

Turdus fuscescens, Wilson's Thrush—Common, Tawny and Veery Thrush, Cheeury, Veery.

Turdus ustulatus, Russet-backed Thrush—Western Thrush.

Turdus ustulatus swainsonii, Olive-backed Thrush—Swainson's Thrush, Swamp Robin in New England.

Turdus aonalaschkæ auduboni, Rocky Mountain Hermit or Audubon's Thrush.

Turdus aonalaschkæ pallasii, Hermit Thrush—Swamp Thrush. "Swamp Robin." Called "Partridge-bird" by the inhabitants of the Adirondack region, from the resemblance of its note, when disturbed, to the "chuck" of the Partridge.

Merula migratoria, American Robin—Robin, Migratory or Red-breasted Thrush, Robin Red-breast, Red-breast.

Hesperocichla nævia, Varied Robin—Varied Thrush, Oregon Western and Painted Robin.

Oroscoptes montanus, Sage Thrasher—Mountain Mockingbird.

Mimus polyglottus, Mockingbird—Mocker, Southern Mockingbird.

Galeoscoptes carolinensis, Catbird—Mockingbird in New York, Black-capped Mockingbird in Bermuda.

Harporhynchus rufus, Brown Thrasher—Thrasher, Mavis, Brown and Song Thrush, Red Thrush in New England, French Mockingbird in D. C., Sand Mockingbird, Red Mavis.

PUBLISHER'S NOTES.

Back numbers.—It would assist us greatly and save a deal of trouble if those ordering back numbers of the SEMI-ANNUAL, would not write for copies of the best edition of Jan. '89 and Jan. '90. We cannot furnish these two numbers in the best edition as our stock is completely exhausted; but we still have them in the popular edition at the regular price of 25c. per copy.

Our advertisers.—They are reliable. Of the old ones it is not necessary to speak as you have probably all had dealings with them and found them *not* wanting. It is of the new ones we wish to speak. We have had many of Mr. Babbitt's specimens and have always found them strictly first-class and true to name. You should at least send in your name for his monthly price-list as you will certainly not lose by so doing.

Of the Acme Folding Boat we cannot speak too highly We have had one of their 12 ft. boats some time and consider it the best folding canvas boat on the market. For compactness, lightness and durability it has no equal. It is also very speedy and has a fine model.

Proposed new works.—Mr. J. W. Jacobs informs us that the "Owl" will be completely changed on its reappearance Jan. 1, 1890. He proposes to make it a 12 page monthly with cover, size of page 10x7 1-2 in. It will be printed on good, heavy paper and the subscription price 75 cents a year.

Mr. I. C. Greene's new "Book of Datas" will be heartily welcomed by all ornithological and oological collectors. It will be produced in the finest possible manner on linen paper, and neatly bound in leather. We are in receipt of sample pages of the datas and they are models of neatness and convenience.

EXCHANGE AND WANT DEPARTMENT.

☞ This department is open to all subscribers, free gratis, one notice each number. To persons not subscribers, the price is 25 cts. for a notice of twenty-five words or less. Notices containing more than twenty-five words, a charge of 1-2 cent for each extra word will be made.

TEXAN SPECIMENS—Bird skins, sets of eggs, fossils of cretacesus, minerals, etc., in exchange for choice bird skins, a photograph camera or ornithological books.

CHAS. D. OLDRIGHT, Austin, Texas.

TO EXCHANGE—A self-inking rubber stamp, on which are the words "Natural History Specimens," will exchange for the best offer of eggs in sets with data.

M. L. WICKS, JR., S. W. Cor. 1st and Hill Sts., Los Angeles, Cal.

First-class eggs in complete sets with full data, to exchange for same from other states. Also have a few skins to exchange.

JOHN A. DONALD, Decatur, Texas.

I have eggs of the Texas birds to exchange with all collectors; write,

WILL. A. MILLER, JR., Box 245, Decatur, Texas.

My permanent address is Waynesburg, Pa., but for the summer and fall I will be at Glenwood, Pittsburgh, Pa. Will be pleased to arrange exchanges with all my old correspondents and new ones too.

J. W. JACOBS, Glenwood, Pittsburgh, Pa.

I have to exchange first-class Cal. birds' eggs, both singles and in sets, for other eggs, or books on ornithology. Send lists and receive mine in return.

HENRY CARRIGER, Sonoma, Cal.

TO EXCHANGE—First and second-class eggs, in sets or single, for first-class.

J. S. SQUARE, Stratford, Ontario, Can.

I have the following A. O. U. Nos. to exchange: 412, 465a, 467, 477, 540, 563, 581, 614, 624, 636, 704, 705, 736. All in first-class sets.

JOHN OLDFIELD, Norton, Mass.

FOR EXCHANGE—Over 100 varieties of eggs fully identified and carefully prepared, in full sets, with data, for others of a like description, new to my collection. Send lists.

H. W. FLINT, care of Yale National Bank, New Haven, Conn.

FOR EXCHANGE—Fine sets of Hawk Owl, Harris' Hawk, Peregrine Falcon, Golden Crowned Kinglet, Snow Bunting, Iceland Gull, Skua Gull, Fulmar Petrel and many others. Wanted: eggs of Osprey, Screech Owl, Meadow Lark, Cedar Birds, Sora Rail, Warblers, etc. Address

E. V. RIPPON, 137 Cumberland St., Toronto, Can.

Stuffed birds, minerals and Indian relics, to exchange for Indian relics. I most desire relics from Vermont and N. H.

J. W. JACKSON, Belchertown, Mass.

WANTED—Thompson's "Byways and Bird Notes," and any of Burroughs' or Thoreau's works. Write stating condition and lowest cash price.

F. L. BURNS, Berwyn, Pa.

I collect and exchange North American birds' eggs.

R. M. BARNES, Lacon, Ill.

Will exchange first-class skins of the Pine and Evening Grosbeaks, and other birds, for Western or Southern birds or fossils.

J. N. CLARK, Meridian, Wis.

Original sets of two and three eggs of A. O. U. Nos. 51a and 71 in quantities, to exchange for other original sets.

C. O. TROWBRIDGE, Framingham, Mass.

FOR EXCHANGE—An immense collection of birds' eggs from all North American localities, also a choice collection of bird skins, many of them from the Mexican border. Send on your list and if anything I can use will give liberal trade. Would take works on ornithology or a good gun.

F. T. PEMBER, Granville, N. Y.

WANTED—To correspond with collectors having first class birds' eggs to exchange or sell.

BERT. H. DOUGLASS, Burlington, Coffey Co., Kansas.

Have many nice sets for sale or exchange. My new list will be issued about Sept. 1st, and will be mailed to anyone applying for same.

H. W. DAVIS, Lock Box 4, North Granville, N. Y.

TO EXCHANGE—Skins of Oregon and Washington birds for those from other and distant localities.

W. B. MALLEIS, Portland, Oregon.

A few more first-class bird skins to exchange for eggs in sets with full data. Everybody write, sending list, and receive mine.

CLYDE L. KELLER, 318, 320 Exchange Block, Salem, Oregon.

WANTED—The following eggs in sets with data: Nos. 760, 742, 673, 656, 564, 506, 512, 516, 503, 455, 435, 425, 312 and others. Have to exchange Vol. 1. "Sunny South Oologist" (bound) and other papers on oology and Natural History, also a few eggs in sets.

E. L. KITTREDGE, MILFORD, N. H.

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JOHN N. PERRY, 2627 Troost Ave., Kansas City, Kan.

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